

Remarks

Reconsideration of this application as amended is respectfully requested.

Claims 1, 2, 8, 11, 13-15, 18, 20-22, and 24 stand rejected under 35 U.S.C. §102(a) as being unpatentable over Hierarchical Pixel Bar Charts (2002) of *Daniel. A Keim et al.* ("*Keim 2002*").

Claims 3-5, 9, 10, 12, 16, 17, 19, 23, and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Keim 2002*.

Claims 6 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Keim 2002* and Designing Pixel-Oriented Visualization Techniques: Theory and Applications (2000) of *Daniel. A Keim* ("*Keim 2000*").

The examiner has objected to the punctuation of claims 1, 13, and 20. In response, applicant has amended claims 1, 13, and 20 in accordance with the examiner's suggestions.

Applicant respectfully submits that amended claim 1 is not anticipated by *Keim 2002* because *Keim 2002* does not disclose a pixel-oriented graph having a visual boundary for representing an aggregate of a set of values of a variable depicted in the pixel-oriented graph as claimed in amended claim 1. Instead, *Keim 2002* discloses a pixel-oriented graph having visual boundaries for representing categories of data types and value ranges of a variable C depicted in the pixel-oriented graph. (*Keim 2002*, page 259, last paragraph of the left column and Fig. 6). For example, Fig. 6 of *Keim 2002* shows a pixel-oriented graph having horizontal and vertical gaps (visual boundaries) that partition data into a number of partitions (pixel blocks). *Keim 2002* teaches that a pair of dividing attributes  $D_x$  and  $D_y$  are used to divide the data into

the partitions and that

Categorical data types are most often used for this purpose.

(*Keim 2002*, p. 259, lt. col., ln. 19) (emphasis added). It is submitted that a visual boundary that divides categories of data as taught by *Keim 2002* is not a visual boundary for representing an aggregate of a set of values of a variable depicted in the pixel-oriented graph as claimed in amended claim 1. *Keim 2002* does not teach that a categorical data type is an aggregate of values depicted. Instead, Fig. 6 of *Keim 2002* shows that the dividing attributes  $D_x$  and  $D_y$  yield categorical data types based on product type and region whereas the variable depicted in the pixel-oriented graph of Fig. 6 of *Keim 2002* is the number of items C. It is submitted that the product type and region attributes are not an aggregate of the number of items C.

*Keim 2002* also teaches with respect to partitions that

If numerical data dimensions are used for the partitioning, a limited number of value ranges has to be determined.

(*Keim 2002*, p. 259, lt. col., ln. 20-21) (emphasis added). It is submitted that a visual boundary that divides value ranges of data as taught by *Keim 2002* is not a visual boundary for representing an aggregate of a set of values of a variable depicted in a pixel-oriented graph as claimed in amended claim 1 because Fig. 6 of *Keim 2002* shows that the dividing attributes  $D_x$  and  $D_y$  yield value ranges base on product type and region whereas the variable depicted in the pixel-oriented graph is the number of items C. It is submitted that ranges of a product type attribute and ranges of a region attribute are not an aggregate of the number of items C.

Given that claims 2-12 depend from amended claim 1, it is

submitted that claims 2-12 are not anticipated by *Keim 2002*.

It is also submitted that amended claims 13 and 20 are not anticipated by *Keim 2002*. Amended claims 13 and 20 include limitations similar to the limitations of amended claim 1. Therefore, the remarks stated above with respect to amended claim 1 and *Keim 2002* also apply to amended claims 13 and 20.

Given that claims 14-19 and 21-25 depend from amended claims 13 and 20, it is submitted that claims 14-19 and 21-25 are not anticipated by *Keim 2002*.

Applicant also submits that claims 3-5, 9, 10, 12, 16, 17, 19, 23, and 25 are not obvious in view of *Keim 2002* because *Keim 2002* does not disclose or suggest the limitations of amended claims 1, 13, and 20 from which claims 3-5, 9, 10, 12, 16, 17, 19, 23, and 25 depend. *Keim 2002* discloses a pixel-oriented graph having visual boundaries for representing categories of data types and value ranges of a variable C depicted in the pixel-oriented graph rather than a pixel-oriented graph having a visual boundary for representing an aggregate of a set of values of a variable depicted in the pixel-oriented graph as claimed in amended claims 1, 13, and 20.

Applicant further submits that claims 6 and 7 are not obvious in view of *Keim 2002* and *Keim 2000* because *Keim 2002* and *Keim 2000* do not disclose or suggest the limitations of amended claim 1 from which claims 6 and 7 depend. Applicant has shown that *Keim 2002* does not disclose or suggest the limitations of amended claim 1. *Keim 2000* does not teach or suggest a pixel-oriented graph having a visual boundary for representing an aggregate of a set of values of a variable depicted in the pixel-oriented graph as claimed in amended claim 1.

It is respectfully submitted that in view of the amendments and arguments set forth above, the applicable objections and rejections have been overcome.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 08-2025 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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